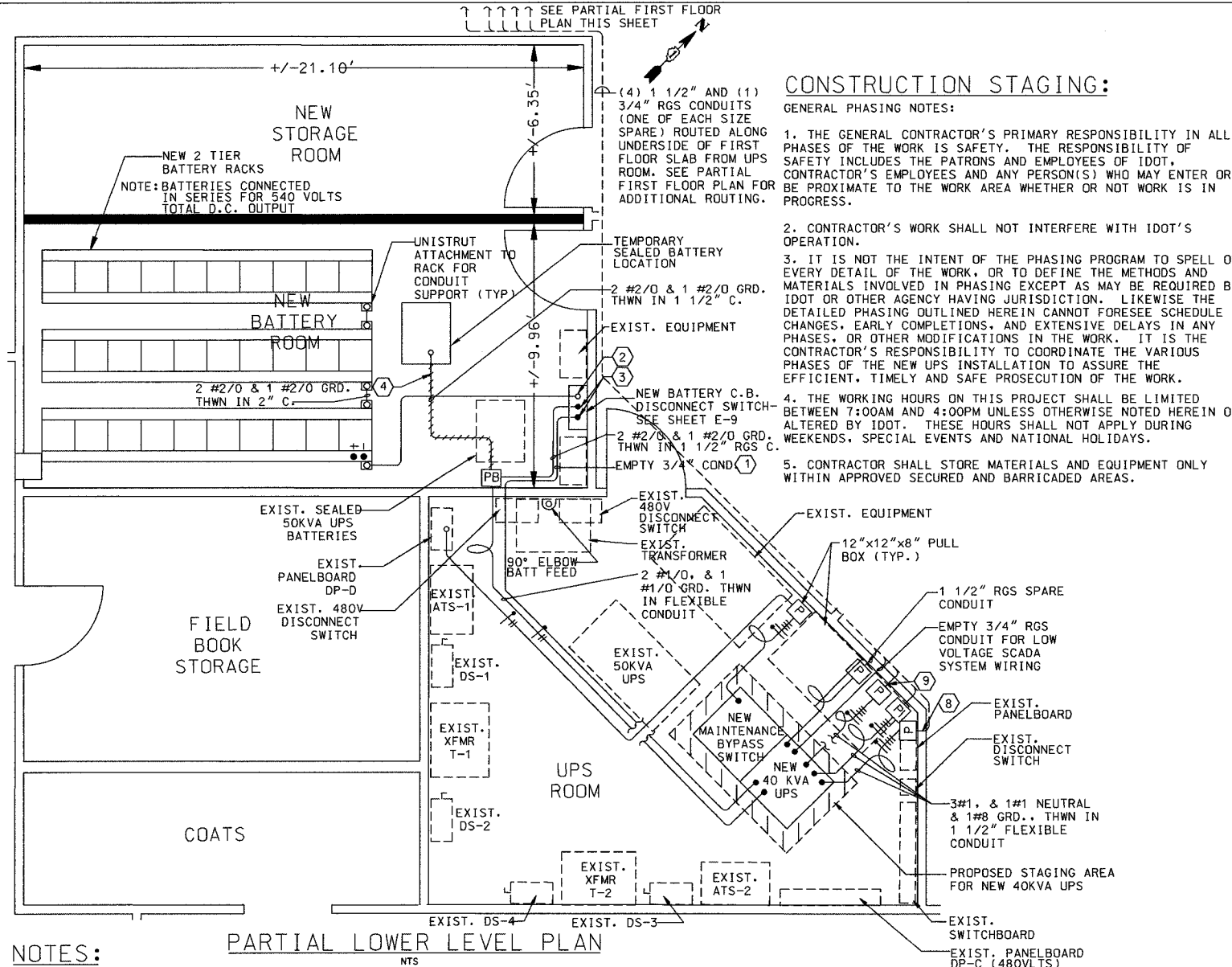


SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	912
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			



**CONSTRUCTION STAGING:**

- GENERAL PHASING NOTES:
1. THE GENERAL CONTRACTOR'S PRIMARY RESPONSIBILITY IN ALL PHASES OF THE WORK IS SAFETY. THE RESPONSIBILITY OF SAFETY INCLUDES THE PATRONS AND EMPLOYEES OF IDOT, CONTRACTOR'S EMPLOYEES AND ANY PERSON(S) WHO MAY ENTER OR BE PROXIMATE TO THE WORK AREA WHETHER OR NOT WORK IS IN PROGRESS.
  2. CONTRACTOR'S WORK SHALL NOT INTERFERE WITH IDOT'S OPERATION.
  3. IT IS NOT THE INTENT OF THE PHASING PROGRAM TO SPELL OUT EVERY DETAIL OF THE WORK, OR TO DEFINE THE METHODS AND MATERIALS INVOLVED IN PHASING EXCEPT AS MAY BE REQUIRED BY IDOT OR OTHER AGENCY HAVING JURISDICTION. LIKEWISE THE DETAILED PHASING OUTLINED HEREIN CANNOT FORESEE SCHEDULE CHANGES, EARLY COMPLETIONS, AND EXTENSIVE DELAYS IN ANY PHASES, OR OTHER MODIFICATIONS IN THE WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE VARIOUS PHASES OF THE NEW UPS INSTALLATION TO ASSURE THE EFFICIENT, TIMELY AND SAFE PROSECUTION OF THE WORK.
  4. THE WORKING HOURS ON THIS PROJECT SHALL BE LIMITED BETWEEN 7:00AM AND 4:00PM UNLESS OTHERWISE NOTED HEREIN OR ALTERED BY IDOT. THESE HOURS SHALL NOT APPLY DURING WEEKENDS, SPECIAL EVENTS AND NATIONAL HOLIDAYS.
  5. CONTRACTOR SHALL STORE MATERIALS AND EQUIPMENT ONLY WITHIN APPROVED SECURED AND BARRICADED AREAS.

6. ALL UNFURNISHED WORK SHALL BE PROPERLY SECURED IN PLACE AND PRESENT NO DANGER TO IDOT PATRONS, PERSONNEL, AND EQUIPMENT. AT EACH WORK PERIOD COMPLETION, THE CONTRACTOR SHALL REMOVE AND RETRIEVE INTO THE STORAGE AREA ALL CONSTRUCTION EQUIPMENT, MATERIALS, DEBRIS AND CLEAR AREA FOR IDOT OPERATIONS. IF THE CONTRACTOR USES ANY PARTIALLY COMPLETED FINISHED WORK AREA FOR STORAGE, CARE SHALL BE TAKEN TO AVOID DAMAGE TO SUCH WORK. ANY DAMAGE WILL BE REPAIRED/ REPLACED AT CONTRACTOR'S EXPENSE.
7. NO FUEL POWERED EQUIPMENT OF ANY KIND SHALL BE USED BELOW GROUND LEVEL.

**SEQUENCE OF PRELIMINARY STAGING**

- PHASE ONE
- STEP-A.  
THE CONTRACTOR MUST PREPARE THE EXIST. UPS ROOM FOR TEMPORARY OPERATION OF THE NEW UPS SYSTEM. AREA OF TEMPORARY OPERATION SHALL BECOME NEW EQUIPMENT LOCATION AFTER CUTOVER IS COMPLETE. SEE PARTIAL PLAN THIS SHEET.
- STEP-B.  
THE CONTRACTOR SHALL FABRICATE TEMPORARY AC & DC FEEDER CABLE OF SUFFICIENT LENGTH TO BE ABLE TO RELOCATE UPS-1 & UPS-2 OUT OF THE WAY OF THE DESIGNATED STAGING AREA FOR INSTALLATION OF THE NEW UPS SYSTEM.
- STEP-C.  
THE CONTRACTOR MUST POSITION AND INSTALL A TEMPORARY SEALED BATTERY CABINET IN THE BATTERY ROOM TO SUPPORT NEW UPS SYSTEM DURING BURN IN, CHECKOUT AND TESTING. THE CONTRACTOR SHALL INSTALL D.C. CABLES FROM TEMPORARY BATTERY CABINET TO NEW 40 KVA UPS PRIOR TO CUTOVER. NOTE: THE TEMPORARY SEALED BATTERIES WILL ALSO SERVE AS THE PRIMARY SOURCE OF DC POWER (10 MINUTE RESERVE) FOR THE NEW 40 KVA UPS SYSTEM WHILE THE WET CELL BATTERIES ARE BEING INSTALLED & UPGRADED IN THE EXIST. BATTERY ROOM.
- STEP-D.  
POSITION NEW 40 KVA UPS SYSTEM AS SHOWN ON PLANS IN THE STAGING AREA OF UPS ROOM. THIS IS A TWO STEP PROCEDURE. THE FIRST STEP INVOLVES GETTING THE UPS SYSTEM ON-LINE FOR BURN-IN, CHECKOUT AND TESTING, AND CONNECTING TO WALL MOUNTED 3 PHASE PANELS UPS-1, UPS-2 AND UPS-3. AFTER CHECKOUT & TESTING AND LOADS HAVE BEEN TRANSFERRED TO THE NEW UPS SYSTEM, THE UPS WILL BE PLACED IN BYPASS AND ROLLED ON CASTERS TO ITS FINAL POSITION AGAINST THE WALL AFTER REMOVAL OF EXIST. ENCLOSURES.

- PHASE TWO
- STEP-A.  
THE CONTRACTOR SHALL INSTALL A NEW 175 AMP BREAKER IN PANEL DP-D TO SERVE AS OVERCURRENT PROTECTION AND PRIMARY AC FEEDER TO THE NEW 40KVA UPS.
- STEP-B.  
INSTALL NEW FEEDER CABLE FROM PANEL DP-D TO AC POWER INPUT BUS OF THE NEW 40 KVA UPS.
- STEP-C.  
PROVIDE A TEMPORARY CONNECTION TO TEMPORARY SEALED BATTERY CABINET TO SUPPORT NEW UPS SYSTEM DURING BURN IN, CHECKOUT AND TESTING. NOTE: TEMPORARY BATTERIES WILL CONTINUE TO BE USED UNTIL DEMOLITION AND RECONSTRUCTION OF EXIST. BATTERY ROOM IS COMPLETE.

- PHASE THREE: SEQUENCE OF PHASING CUTOVER
- STEP-A.  
THE CONTRACTOR SHALL PREPARE FOR THE CUTOVER PHASE BY INSTALLING APPROPRIATE CONDUIT AND WIRE TO PROPOSED PANELS UPS-1, UPS-2 AND UPS-3 BEFORE DECOMMISSIONING EITHER OF THE EXIST. UPS SYSTEMS.
- STEP-B.  
PRIOR TO BEGINNING CUTOVER WORK THE CONTRACTOR SHALL MAKE PREPARATIONS IN ADVANCE VIA COORDINATION AND COMMUNICATION WITH IDOT'S PROJECT MANAGER TO KEEP ONE OF THE TWO UPS SYSTEMS UP AND RUNNING UNTIL THE SUCCESSFUL TRANSFER OF ALL LOADS ON THAT SYSTEM IS COMPLETED TO THE NEW DESIGNATED PANELBOARD.
- STEP-C.  
THE CONTRACTOR SHALL MAKE PREPARATIONS IN ADVANCE TO DETERMINE WHAT MISSION CRITICAL LOADS (IF ANY) SHOULD BE TRANSFERRED TO THE SYSTEM TO REMAIN IN OPERATION AS A PRECAUTIONARY MEASURE TO MINIMIZE DISRUPTING OF OPERATIONS IN THE EVENT OF SOME UNFORESEEN DELAYS IN BRINGING THE NEW UPS SYSTEM ON-LINE.

STEP-D.  
BEFORE CUTOVER THE CONTRACTOR SHALL INSTALL 3 NEW FEEDER CABLES FROM NEW UPS DISTRIBUTION PANELBOARD TO THE FOLLOWING:

**UPS-1 PANELBOARD 1ST FLOOR COMMUNICATIONS ROOM:**

CONTRACTOR TO INSTALL NEW FEEDER CABLE AND CONDUIT TO UPS-1. CONTRACTOR MUST BE AWARE THAT FLOOR MUST BE CORE DRILLED TO ROUTE CONDUIT RISER TO 1ST FLOOR. SUGGESTED CONDUIT ROUTING IS SHOWN FOR CONTRACTOR REFERENCE ONLY. CONTRACTOR SHALL DETERMINE BEST CONDUIT ROUTING PATH AND CORE DRILLING LOCATIONS AND REVIEW WITH IDOT PRIOR TO PROCEEDING. REFERENCE PARTIAL ELECTRICAL PLAN, THIS SHEET. NOTE: NEW PANELBOARD SHALL BE RECESSED TYPE. AFTER INSTALLATION OF PANELBOARD THE WALL SHALL BE RESTORED TO MATCH PRIOR EXIST. CONDITION INCLUDING BUT NOT LIMITED TO PAINT TO MATCH EXISTING WALL COLORS. COORDINATE WITH IDOT PROJECT ENGINEER PRIOR TO ALTERING WALL IN ANYWAY.

**UPS-2 PANELBOARD 1ST FLOOR COMMUNICATIONS ROOM:**

CONTRACTOR TO INSTALL NEW FEEDER CABLE AND CONDUIT TO UPS-2. CONTRACTOR MUST BE AWARE THAT FLOOR MUST BE CORE DRILLED TO ROUTE CONDUIT RISER TO 1ST FLOOR. CONTRACTOR SHALL DETERMINE BEST CONDUIT ROUTING PATH AND CORE DRILLING LOCATIONS AND REVIEW WITH IDOT PRIOR TO PROCEEDING. REFERENCE PARTIAL ELECTRICAL PLAN, THIS SHEET. NOTE: NEW PANELBOARD SHALL BE RECESSED TYPE. AFTER INSTALLATION OF PANELBOARD THE WALL SHALL BE RESTORED TO MATCH PRIOR EXIST. CONDITION INCLUDING BUT NOT LIMITED TO PAINT TO MATCH EXISTING WALL COLORS. COORDINATE WITH IDOT PROJECT ENGINEER PRIOR TO ALTERING WALL IN ANYWAY. INSTALLATION OF PANELBOARD UPS-3 SHALL BE THE SAME AS DESCRIBED FOR UPS-1 AND UPS-2 ABOVE. ALL THE AFOREMENTIONED PANELBOARDS SHALL BE 100 AMP, 120/208 VOLT, THREE PHASE, 4 WIRE PLUS GROUND BAR. PANELS SHALL HAVE CAPACITY FOR 42 CIRCUITS. THE ABOVE WIRES SHOULD BE PRE-PULLED IN ADVANCE OF CUTOVER DATE LEAVING 5 FEET OF WIRED COILED FOR FINAL TERMINATION AT PANELBOARD. NOTE: THE EXIST. POWER DISTRIBUTION SYSTEM MUST BE LEFT OPERATIONAL UNTIL PRIOR APPROVAL IS RECEIVED FROM IDOT FOR AN ACCEPTABLE CUTOVER DATE AND TIME.

AFTER THE SUCCESSFUL TRANSFER OF LOADS OF THE 1ST SYSTEM, THE SAME PROCEDURE SHOULD BE FOLLOWED FOR TRANSFER OF LOADS FOR THE 2ND UPS SYSTEM. AFTER CUTOVER IS COMPLETE BEGIN REMOVAL OF ENCLOSURES ITEMS 2, 3, 4, 6, 7 & 8 FROM WALL IN UPS ROOM. CONTRACTOR IS TO DELIVER EXIST. ITEMS 1 AND 2 (10KVA & 5KVA RESPECTIVELY) TO DESIGNATED MAINTENANCE STORAGE AREA AS DIRECTED BY IDOT. NOTE: CONDUITS FOR ITEMS 3 AND 4 ARE TO BE REMOVED BACK TO SOURCE.

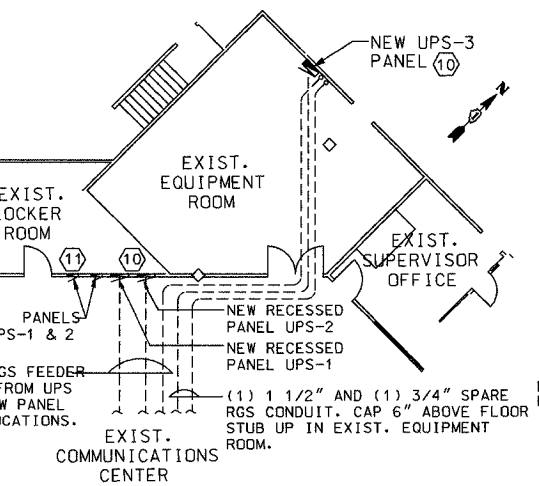
**UPGRADE AND REPLACEMENT OF BATTERIES AFTER UPS ON-LINE PHASE TWO**

- STEP-A.  
THE CONTRACTOR SHALL START THE REMOVAL OF EXIST. WET CELL BATTERIES FROM EXIST. BATTERY ROOM.
- STEP-B.  
BATTERIES SHALL BE REMOVED AND DISPOSED OF TO MEET ALL EPA REGULATIONS AND GUIDELINES FOR DISPOSAL OF HAZARDOUS MATERIAL.
- STEP-C.  
INSTALL NEW BATTERY RACKS TO COMPLY WITH SEISMIC 1 CONSIDERATIONS FOR EARTHQUAKES.
- STEP-D.  
IF APPLICABLE, INCREASE SIZE OF EXIST. WALL MOUNTED BATTERY BREAKER TO COMPLY WITH MANUFACTURERS RECOMMENDATION.
- STEP-E.  
CONTRACTOR TO INSTALL NEW CONDUIT AND WIRING FROM BATTERY BANK TO NEW 40 KVA UPS SYSTEM AS REQUIRED TO MEET MANUFACTURERS REQUIREMENTS. NOTE: EXIST. CONDUIT AND/OR DC CABLING MAY BE RE-USED OR RUN IN PARALLEL WITH NEW WIRING TO MEET INCREASED CAPACITY REQUIREMENTS FOR NEW 40KVA UPS.

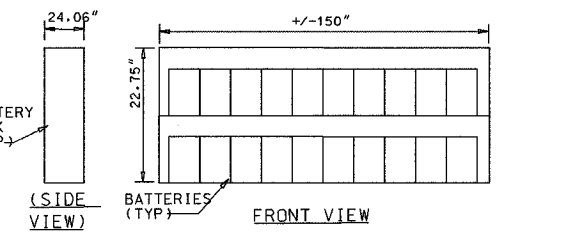
**BATTERY ROOM FACILITY MODIFICATIONS**  
CONTRACTOR TO COORDINATE WITH DEPARTMENT THE PARTIAL REMOVAL OF EXIST. WALLS AT EXIST. LOWER LEVEL BATTERY ROOM AS NECESSARY FOR THE CONSTRUCTION OF NEW DIVIDING WALL PARTITION AND NEW DOOR INSTALLATION FOR THE NEW STORAGE ROOM. CONTRACTOR TO MATCH EXIST. WALL CONSTRUCTION AND FINISHES UNLESS OTHERWISE DIRECTED BY DEPARTMENT. THE CEILING AREA AROUND THE AIR CONDITIONING DUCTS SHALL BE SEALED. A NEW DOOR SHALL BE INSTALLED ON NORTHEAST WALL OF STORAGE ROOM AS SHOWN ON PARTIAL LOWER LEVEL PLAN. DOOR/FRAME SIZE, MATERIAL, HARDWARE, FINISH SHALL MATCH THAT OF EXIST. BATTERY ROOM DOOR AND SHALL HAVE A MATCHED KEY LOCK PER DIRECTION OF THE ENGINEER.

- NOTES:**
- 1 ELECTRICAL CONTRACTOR TO SUPPLY INTERCONNECTION CABLE TO UPS MODULE; SEE SHEET DT-121 FOR INTERCONNECTION DIAGRAM. CONSULT MANUFACTURER'S SHOP DRAWINGS FOR SIZE OF WIRE AND TYPE OF CABLE.
  - 2 POSITIVE AND NEGATIVE DC POWER CABLES NEED TO ENTER FROM THE BOTTOM OF THE ENCLOSURE TO PREVENT CONTACT WITH BATTERY INTERFACE BOARD "BIB".
  - 3 LOW VOLTAGE WIRING NEEDS TO ENTER FROM THE TOP OF THE ENCLOSURE.
  - 4 TEMPORARY WIRING TO BE REMOVED BETWEEN TEMPORARY SEALED BATTERIES AND PULL BOX AFTER NEW UPS IS ON-LINE.
  - 5 ALL WIRING WILL BE INSTALLED IN RIGID GALVANIZED STEEL (RGS) CONDUIT UNLESS OTHERWISE NOTED.
  - 6 ALL WIRING SHALL BE TYPE THWN INSULATION UNLESS OTHERWISE NOTED.
  - 7 ALL WIRING WILL BE INSTALLED BY QUALIFIED INDIVIDUALS, IN A NEAT WORKMANLIKE MANNER, TO CONFORM TO THE NATIONAL ELECTRICAL CODE AND SHALL MEET ALL STATE AND LOCAL CODES.
  - 8 3#1 & 1#1 NEUTRAL & 1#8 GRD THWN IN NEW 1 1/2" CONDUIT TO NEW REPLACEMENT PANELBOARDS UPS-1 & UPS-2 RESPECTIVELY, SEE PARTIAL FIRST FLOOR PLAN THIS SHEET FOR RECOMMENDED LOCATION OF NEW REPLACEMENT PANELS.
  - 9 3#1 & 1#1 NEUTRAL & 1#8 GRD THWN IN NEW 1 1/2" CONDUIT TO NEW PANELBOARD UPS-3. SEE PARTIAL FIRST FLOOR PLAN THIS SHEET FOR RECOMMENDED LOCATION OF NEW PANEL WITHIN EXIST. EQUIPMENT ROOM.
  - 10 PANELBOARD SHALL BE 120/208V, 3Ø, 4W. PLUS GRD., WITH 100A MAIN BREAKER, 100A BUS, AND CAPACITY FOR 42 CIRCUITS.
  - 11 EXIST. PANELBOARDS UPS-1 AND UPS-2 SHALL BE REMOVED AFTER CUTOVER TO NEW RECESSED PANELS UPS-1 AND UPS-2 IS COMPLETE. AFTER REMOVAL OF PANELBOARD, THE WALL SHALL BE RESTORED TO MATCH EXIST. WALL CONDITIONS. CONTRACTOR TO MATCH EXIST. WALL CONSTRUCTION AND FINISHES UNLESS OTHERWISE DIRECTED BY DEPARTMENT.

**PARTIAL LOWER LEVEL PLAN**



**PARTIAL FIRST FLOOR PLAN**



**NEW BATTERY RACKS ELEVATIONS**

**LEGEND**

EXIST. EQUIPMENT TO REMAIN

**Edwards and Kelcey**  
ONE NORTH FRANKLIN  
CHICAGO, IL 60606  
PHONE: (312) 251-3000  
FAX: (312) 251-3015  
WEB: WWW.EKCORP.COM

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) 31st STREET to I-57  PROPOSED UPS EQUIPMENT INSTALLATION (SCHAUMBURG COMMUNICATION CENTER)
NAME	DATE	

SCALE: AS SHOWN ON PLANS      DRAWN BY: JM  
DATE: October 29, 2004              CHECKED BY: CS

A:\030019\035\115\cadd\ups\02005\02a.rvt 10/23/2004 10:50:53 AM